Manufacturing Process Performance Task

Name: _____

Date: _____ Score: _____

Part 1: Review

1) Name and describe the 5 stages of the manufacturing process.

2) What are examples of fabrication? Describe what you think each one means.

3) Define quality in terms of the manufacturing process.

4) Why was the assembly line an important contribution to the manufacturing process?

5) Name and describe 3 types of industrial robots.

Part 2: Assembly Line

1. Your group will assemble a truck in a mass production line.
2. Complete as many trucks as your group can in 30 minutes. Switch jobs every 10 minutes.
3. Before starting, each student will choose to color, cut, and fold one of the following parts. The truck should be assembled in the order shown.

Hood and front fenders
Cab
Box
Bed liner
Wheels

4. Each student must determine how much time he will spend coloring his part, keeping in mind that he must also cut, fold, and assemble it with glue without slowing down the assembly line.
5. Remember, quality also counts. You may want to a have a group conference before starting.
6. Groups may rough cut and stack 10 truck patterns before starting assembly.

Data collection:

1. Time it took to assemble 10 units

First time _____

Second time _____

2. Average time it took to assemble 10 units

_____ First time

\+ _____ Second time

= _____ ÷ 2 = _____ (average)

3. Time to complete 1 unit (individual unit time)

Average _____ ÷ 10 = _____ individual unit time

4. Expected time to assemble 100 units

Individual unit time _____ X 100 = _____

Analysis:

1. Did you meet or beat your expected time to complete 100 units? Explain.

2. Was the expectation of completion time realistic? Why or why not?

3. Were there any production slow downs and what caused them?

4. Was your job getting boring? Why or why not?

5. Was another student's production speed frustrating anyone?